

## Landforms and Oceans

### 5.3 The student will demonstrate an understanding of features, processes, and changes in Earth's land and oceans. (Earth Science)

#### 5.3.6 Explain how human activity (including conservation efforts and pollution) has affected the land and the oceans of Earth.

**Taxonomy level:** 2.7-B Understand Conceptual Knowledge

**Previous/Future knowledge:** In 4<sup>th</sup> grade (4-2.6), students explained how organisms cause changes in their environment. In 7<sup>th</sup> grade (7-4.6), students will explain the implications of the depletion of resources and the importance of conservation of resources.

**It is essential for students to know** that human activities can benefit the land and oceans by preserving the resources that these areas provide.

- *Natural resources* are the materials that people can take or use from Earth.
- Resources may include air, water, trees, rocks and minerals, soil, or coal and oil.

#### *Conservation Efforts*

- The wise use of natural resources is called *conservation*.
- Human activities that help to keep the natural resources of Earth available and clear of pollution are conservation efforts.
- Some efforts involve everyone trying to *reduce* (use less of something), *reuse* (use something over again), and *recycle* (make something new from an old product).
- Other efforts involve trying to save the land and oceans through clean-up projects, installing fence lines to prevent dune erosion or jetties along the entrance to harbors or groins along beaches in an effort to keep sand from washing away.
- Beach renourishment projects help to restore sand on beaches.
- Planting trees, bushes, or grass is a way to improve air quality as well as keep erosion from carrying away soil.

#### *Pollution*

- *Pollution* is anything that harms the natural environment.
- When the taking or using of natural resources causes harm to Earth's air, water including oceans, or land, then the human activity has caused pollution.
- Oceans are rich in food, minerals, and other resources and can be easily polluted.
- Human activities can also harm the land and oceans causing resources to be polluted or destroyed.
- Sometimes people may allow materials to be dumped into rivers not thinking that rivers flow into the estuaries and ocean where they are harmful to life there.
- Careless dumping of trash on land or in oceans pollutes those areas; smoke and fumes from burning fuels pollutes the air; oil spills harm the ocean and can cause life there to be killed.
- Careless human activities in agriculture, industry, construction, or mining can cause pollution on the land, in the water, and in the air.

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#### Assessment Guidelines:

The objective of this indicator is to *explain* the effects of human activity on the land and oceans of Earth; therefore, the primary focus of assessment should be to construct a cause-and-effect model of how the various efforts or activities by people have conserved resulted in harm or pollution to these areas. However, appropriate assessments should also require students to *summarize* conservation efforts that make wise use of the land and oceans; *summarize* activities that pollute the land or oceans; *identify* areas of the land or ocean where resources are being conserved; or *exemplify* ways that the human activities affect land and oceans.